Regional Postgraduate Program in Information Science in Anglophone Africa

IDRC-TS

Identification of an Appropriate Location

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Identification of an Appropriate Location

Kenneth H. Roberts, Editor

Report of a Joint Unesco/IDRC Mission

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Abstract African countries in which English is the language of higher education maintain several excellent schools of library science and high-level programs in computer science; however, no academic program in information science has been fully developed. In response to requests from Africa, and as a first step in establishing such a program, the United Nations Educational, Scientific and Cultural Organization (Unesco) and the International Development Research Centre (IDRC) sent a joint mission to eight African universities in six countries to determine their views of the needs in information science, the types of programs required to meet those needs, and the capacity of these institutions to undertake such a program, and to recommend to Unesco and IDRC which institution should be encouraged to set up a regional postgraduate program in information sciences. This report presents the results of the mission and outlines the methodology used in its planning and execution; it will be useful to those working toward setting up similar programs in other parts of the developing world, or teaching information science to students from developing countries.

Résumé Les pays africains qui utilisent l'anglais au niveau des études supérieures possèdent plusieurs excellentes écoles de bibliothéconomie, de même que des programmes avancés en informatique. Aucun véritable programme de niveau universitaire n'a cependant été complètement établi dans le domaine des sciences de l'information. Répondant à des demandes venues d'Afrique, et dans une première étape vers l'établissement d'un tel programme, l'Organisation des Nations Unies pour l'éducation, la science et la culture (Unesco) et le Centre de recherches pour le développement international (CRDI) ont envoyé une mission conjointe auprès de huit universités dans six pays africains. Il s'agissait, d'une part, de connaître leurs besoins dans le secteur des sciences de l'information, les catégories de programmes susceptibles de répondre à ces besoins, enfin la capacité des institutions en question à entreprendre un programme particulier; d'autre part, de recommander à l'Unesco et au CRDI quelle institution devrait être subventionnée en vue de la création, au niveau des études supérieures, d'un programme régional en sciences de l'information. Le présent rapport non seulement expose les résultats de la mission, mais résume les méthodes utilisées pour sa planification et sa réalisation. Il profitera à ceux et à celles qui travaillent à mettre en place des programmes du même genre en d'autres pays en développement, ou qui enseignent les sciences de l'information à des étudiants du Tiers-Monde.

Resumen Los países africanos donde el inglés es el idioma de la educación superior, mantienen algunas excelentes escuelas de bibliotecología y programas de informática de alto nivel; sin embargo, no se ha desarrollado un programa académico completo en ciencias de la información. Como respuesta a las solicitudes de Africa, y como primer paso en el establecimiento de tal programa, la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (Unesco) y el Centro Internacional de Investigaciones para el Desarrollo (CIID) enviaron una misión conjunta a ocho universidades africanas en seis países con el fin de determinar su opinión sobre las necesidades en ciencias de la información, el tipo de programas requeridos para hacerles frente, la capacidad de estas instituciones para emprender tales programas, y recomendar a la Unesco y al CIID la institución que debe recibir estímulo para establecer un programa regional de postgrado en ciencias de la información. Este trabajo presenta los resultados de la misión y esboza la metodología usada en su planificación y ejecución. El documento deberá ser de utilidad para aquellos que trabajan en la creación de programas similares en otras partes del mundo en desarrollo, o en la enseñanza de las ciencias de la información a los estudiantes de estos países.

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The mission must register its sincere thanks to the officials and staff of the universities and other bodies, and also the individuals, who received and assisted it. Without exception, the hospitality and kindness offered were of the highest order and every attempt was made to make the hectic and sometimes difficult schedule illuminating and productive. The mission's task would have been simpler had there been fewer institutions with such convincing claims for hosting the proposed program. The members are encouraged, however, by the thought that all those met during the mission appeared to be fully committed to the idea and importance of establishing a viable program within the region and, regardless of the location selected for it, are prepared to work for its full implementation and success.

Mission participants

Professor E.A. Boateng, former Vice-Chancellor of the University of Cape Coast, President of the Academy of Arts and Sciences of Ghana, and Executive Chairman of the Environmental Protection Council of Ghana;

Mr E.T.K Lwanga, Chief of the Library, Central Files, and Archives Division of the African Development Bank and former Chief Librarian of the University of Zambia;

Mr Kenneth H. Roberts, Chief of the General Information Programme's Section for Training of Information Specialists and Users, United Nations Educational, Scientific and Cultural Organization; and

Ms Martha B. Stone, Deputy Director of the Information Sciences Division, International Development Research Centre.

PREFACE

African countries that use English as the language for higher education maintain several excellent schools of library science and high-level programs in computer science; however, no academic program in information science has been fully developed.

The perpetuation of study abroad in this area cannot provide a fully satisfactory solution to all current training needs and the adaptation of information systems and techniques for Africa is vital. Facilities should be available to train a solid core of professional leaders who can identify particular information needs, as well as the existing information resources, of Africa.

After the Association of Commonwealth Universities (ACU) had, at the suggestion of the International Development Research Centre (IDRC), determined that the African university community was interested in creating such a program, the Information Sciences Division of IDRC and the Division of the General Information Programme (PGI) of the United Nations Educational, Scientific and Cultural Organization (Unesco) discussed how the establishment of a regional program might be furthered. As a first step, it was decided to send a joint mission to eight African universities in six countries during February 1983. The mission's task was to ascertain the views of the institutions and other appropriate bodies and individuals on needs in the field of information science, gather information on the types of programs required to meet those needs, and assess the capacity of the institutions to undertake such a program. Finally, the mission was to make recommendations to Unesco and IDRC.

The mission performed a valuable service in studying the needs and possibilities for setting up a regional postgraduate program in information science, but it is also hoped that this account of the mission and of the methodology used for its planning and execution will assist those working toward the

realization of similar training programs, which are much needed in many parts of the developing world.

Unesco and IDRC were encouraged that the mission reached the conclusion that the creation of such programs in Africa is possible and have been happy to assist in the prompt implementation of early stages of the plans that emerged as a result of the recommendations of the mission.

The two organizations intend to continue their cooperation toward creating operational regional training programs and hope to assist officials in Ethiopia and Nigeria to identify the additional funding from other sources that will be required to mount fully effective programs.

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CHAPTER 1: PREPARATION OF THE MISSION

African agencies and governments are establishing documentation and information centres at regional, national, and local levels to tap the available information needed to make timely and appropriate decisions and to prevent their countries being left behind in the development process. However, they rarely have the information specialists needed to plan, design, and manage the necessary facilities.

Although African countries that use English as the language for higher education maintain a number of excellent schools of library science and high-level programs in computer science, a fully developed academic program in information science does not, at present, exist. For education in this field, students from these countries must now study abroad. In contrast, well established training programs in information science, taught largely in the French language, exist in Senegal and Morocco and the need for English-language post-graduate education in Africa has been widely recognized.

In view of the growing awareness in African countries of the important contribution that modern information services can make to their development efforts, continued reliance on facilities outside the region clearly cannot provide a fully satisfactory solution to all current training needs in information sciences. The United Nations Educational, Scientific and Cultural Organization (Unesco) and the International Development Research Centre (IDRC) have, for some time, been considering the feasibility of encouraging the establishment in Africa of a viable English-language regional postgraduate program in information science because the adaptation of information systems and techniques to African needs and conditions is vital. It is also important that facilities should be available for the training of a solid core of professional leaders capable of identifying particular information needs as well as the existing information resources of Africa in the context of contemporary developments.

To determine the interest of the African university community in the creation of such a program, the Association

of Commonwealth Universities (ACU), at the suggestion of IDRC, explored the matter at the meeting of Commonwealth Heads of Universities held in Hong Kong in March 1981. The response was very favourable and several African universities subsequently indicated interest in supporting such an undertaking.

Shortly thereafter, the Information Sciences Division of IDRC and the Division of the General Information Programme (PGI) of Unesco discussed how the establishment of a regional program might be furthered. As a first step, it was decided to create a joint exploratory mission. To this end, a planning meeting was held in London from 10-12 August 1982 at which the mission participants were designated and the terms of reference of the mission, itinerary and calendar to be followed, and the criteria to be used for selecting the location for the program were developed and agreed to.

In February 1983, the mission visited eight universities in six African countries (Fig. 1) selected on the basis of the interest that they had shown in hosting the program or in having discussions with the mission

University of Ghana, Legon, Accra;
University of Lagos, Nigeria;
University of Ibadan, Nigeria;
University of Ife, Ile-Ife, Nigeria;
University of Addis Ababa, Ethiopia;
University of Nairobi, Kenya;
University of Zambia, Lusaka Campus; and
University of Zimbabwe, Harare.

Initial Views

Before setting out on the mission, the members had agreed that their views on information needs and training needs in Africa could be summarized as in the following two sections.

Information Needs

Some of the constraints that have inhibited effective information transfer within and among African countries have been identified as

- Economic, i.e., expense of international links, nonavailability of funds for capital and recurring costs, and foreign exchange problems;

Fig. 1. The Mission's itinerary.

- Political, i.e., absence of formulated national information policies, lack of recognition of the importance of information at the highest levels of government, and conflicts between confidentiality and free access to information;

- Personnel, i.e., scarcity of trained personnel, low prestige of information professionals, and lack of adequate refresher courses for continuing education; and

- Infrastructural, i.e., scarcity of well organized collections of primary information, insufficient informal information flow (invisible college), inadequate postal and communication services and linkages, prejudicial customs regulations, and insufficient attention to the "repackaging" of information for the end users.

Strategies for development can be soundly based only on up-to-date data. For Africa, quantitative data are still rare and often poorly organized. Many countries lack an established mechanism for keeping track of the published and unpublished reports, feasibility studies, evaluations, etc. produced by planners, economists, scientists, and others.

The present frequent lack of information and of efficient means for its transfer interfere with the rational use of natural and human resources, with scientific and technological development, and with the advancement of culture and social well-being.

In recent years, attempts have been made at the international level to address the problem of inefficient transfer of information within Africa. The United Nations Conference on Science and Technology for Development (UNCSTD 1979) recommended the establishment of a global information network of scientific and technological information. The Lagos Plan of Action for the Implementation of the Monrovia Strategy for the Economic Development of Africa, adopted in April 1980 by the Heads of State and Government of the Organization of African Unity (OAU 1981), as well as the Final Act of Lagos published in 1982 as annex I in the second revised edition of OAU (1981), stresses the need to establish modern information services in Africa. These documents draw the attention of the African governments to the need to collect, analyze, assess, catalogue, and disseminate information relevant to Africa and concerning fields involved in African development as well as the need to implement an African information network using the most advanced satellite technology.

At present, the most technologically advanced information systems are being created mainly in the industrialized countries. Although developing countries need full access to these outside data sources, they must also organize their own systems and services, including bibliographic and numerical data bases, at national or regional levels. Systematic methods of collecting and handling local information are needed to support national development efforts and to enable the developing countries to participate more fully in regional and international information exchanges.

Training Needs

Studies and surveys of the information and information systems needs of the African region, of global trends in

information handling and their impact on developing countries, and of the impact of African projects such as the Pan-African Documentation and Information System (PADIS) being developed by the Economic Commission for Africa (ECA) strongly suggest that computer applications in library and information work will spread rapidly in the region.

On-line information-access capabilities have been enhanced by several developments -- the growing number of information source files in computer-readable form covering a wide range of fields; an improved capability for frequent updating of data bases; the development of powerful time-sharing computer facilities; interactive, user-friendly systems and transportable software packages; rapid-access storage devices; a steady decline in the cost of data storage; the diminishing cost of intelligent terminals; and the global extension of telecommunication networks. Also, institutions are finding that it is necessary to develop data bases and information storage and retrieval systems for specialized materials and local data as well as that it is advantageous to computerize some library operations and services. In view of developments in microprocessor technology, even small institutions can now often acquire computerized systems at a cost within their reach.

As a consequence, library and information personnel in the countries of the region are increasingly called upon to perform some or all of the following types of activities involving computer applications

- Arranging for the use of and time-sharing in locally available computer facilities (hardware, software, and expertise);
- Developing information storage and retrieval systems of specialized local data and materials;
- Providing such computerized services as referral, selective dissemination of information (SDI), and answering queries;
- Applying computers to library housekeeping operations;
- Carrying out on-line searches for information users;
- Assisting, guiding, and training information users in the use of computerized systems and in on-line searching;

- Organizing computerized systems and on-line searching;
- Using data bases from elsewhere to generate SDI and other services;
- Exchanging local data bases, resource sharing through networking, and contributing data (input) to international, regional, and national information systems and services;
- Participating in the exchange and sharing among institutions of software and systems documentation for computers; and
- Training library and information personnel in computer applications through academic or ad hoc courses and workshops or on-the-job training.

In view of these needs and opportunities, it is important to train personnel to apply computers and associated technology to library processing activities and information services so that users at every level may benefit more fully from the generation of outputs from this new technology.

Objectives and Terms of Reference

The main objective of the mission was to identify a university that could support a program in information science at the postgraduate level. In broader terms, the mission's task was to ascertain the views of the institutions and other appropriate bodies and individuals on the needs in the field of information science, to gather information on the types of program required to meet those needs, to assess the capacity of the institutions to undertake such a program, and, finally, to make recommendations to IDRC and Unesco for the location of a program.

The need for developing national or regional training programs in information science was recognized as early as 1971 in Unesco's report on the feasibility of a world information system (Unesco 1971), and this need has been restated frequently at regional meetings.

Although not every attempt to establish regional programs in Africa or elsewhere has been successful, evidence that the regional concept can work exists on every continent. One

example is the very successful program in information science at the University of the Philippines at Manila, a Unesco/United Nations Development Programme (UNDP) project (Neelameghan 1984).

The mission realized that programs could be regional either in the sense of being supported jointly by several governments, and thus open to students from the participating countries, or as national programs with formal commitments to accept students from other countries in the region. Although either option has inherent difficulties, the second seemed less vulnerable to shifts in international relations and, therefore, easier to administer. Various well known devices for ensuring that such programs continue to reflect the needs of the region in which they are located have been devised, including the appointment of an international advisory board.

During the mission, discussions were to be held primarily but not exclusively with the universities. The question of formal governmental support could be pursued later when one or more potential locations had been identified.

In making its recommendations, the mission was expected, inter alia, to take due note of earlier successes by the institutions visited in managing regional programs in other fields, as well as the likelihood of local support being available over a period of years, perhaps from 6 to 10, for any program that might emerge from the mission.

Neither Unesco nor IDRC envisaged a large investment in computer hardware or buildings -- indeed, neither organization finances such capital investments from their regular budgetary resources. Thus, the university selected would have to provide a substantial proportion of facilities and services required for execution of the program. Elements such as staff development, fellowships, and software to support the information science program might be provided, depending on the requirements of the institution selected. It was surmised that additional funding would be sought from other international sources, or through bilateral agreements between the selected university or country and a foreign national organization or government.

It was known that few library schools in African countries possessed their own computer facilities. At least in the initial stages of building a program, even in institutions where some kinds of information specialists were already being trained,

supporting facilities available in other parts of the university or in other institutions would have to be mobilized.

In the initial stages, the program would have to draw on various other units of the university to teach information science courses. Thus, it might be necessary to orient computer experts to library and documentation or bibliographic activities. Therefore, the mission was expected to identify strengths that could be tapped in relevant areas currently taught in these universities, such as management science, library science, mass communications, linguistics, mathematics, statistics, and computer science.

It was realized that the software packages available might not be those most suitable for bibliographic information handling and library applications. These would require modification, or new programs or packages would need to be developed or obtained elsewhere and, in the latter case, software adaptation to a different computer configuration might be necessary.

It was expected that the activities in which information personnel of the region would be involved would demand a practice-oriented course with sufficient theoretical material for a full understanding of principles and practices.

Because major African universities frequently offer technical short-courses to practitioners in various fields and because a strong demand was evident for refresher courses for professionals who need retraining in areas where information science techniques are evolving rapidly, it was considered a requirement that the program should also accommodate this level of training.

In their discussions in Hong Kong in 1981, the ACU vice-chancellors had suggested that at least two programs were necessary to serve anglophone countries in Africa. As the mission began its work, it seemed more practical or realistic to envisage one program with "out posts," that is, with certain courses -- in particular the professional upgrading or continuing education courses -- being offered in associated institutions.

At the outset, the mission considered it likely that a postgraduate program in information science would cover the theory and practice of the design, development, and operation of information systems and services. At all events, the program envisaged would complement rather than duplicate the programs in library science now available in the region.

With this in mind, it was felt that the proposed program would address the following topics:

- Provision of information for development planning and management;
- Presentation of an international perspective of the information field to encourage cooperative and resource-sharing arrangements for information transfer;
- Problem-solving and decision-making, use of appropriate techniques and tools for systems analysis, operations research, statistical analysis, and other quantitative methods in information management; and
- Applications of appropriate information technology in the design, development, and operation of information systems.

A conscious effort would be made, however, to canvas the views of the institutions themselves on the appropriate structure of the proposed program to ensure its relevance to African needs and conditions.

Criteria for a Location for the Program

To assist it in assessing the various institutions to be visited as possible locations for the program, the mission developed the following set of criteria at its London planning meeting:

- Level of interest within the university and of the government concerned, including political commitment and professional support;
- Potential administrative and financial abilities of the institution to ensure continuation of the program and maintenance of its regional character at the end of a period of external support -- e.g., state of the physical plant and of the current budget, relations between administration/management and faculty, and effectiveness of the university in obtaining government support;
- Presence in the university of related programs such as library, computer, and management sciences, and linguistics;

- Existence of good computer and communications facilities to support the program -- computer: potential access to data bases, disk space, software packages, programmers to work with teaching staff; and communications: telephone, telex, mail, airport, etc.;

- Existence of a dynamic library service strongly supported by the university administration and faculty;

- Availability of the additional housing, classroom facilities, offices, and administrative services required for the new students and staff;

- Existence of local teaching staff available to participate in the program;

- Presence of facilities for field work and practical training; and

- Existence within the university of an active staff-development program that would also apply to the program under consideration.

When the mission began to apply the criteria to evaluate the capabilities of the various universities, it decided to reformulate them to allow a numerical ranking to be applied. For this purpose, the following categories were identified and institutions were scored for each on a scale of 1 (poor) to 10 (excellent):

- Level of interest;

- Potential for continuity of the program;

- Availability of --
  good library,
  computer facilities, and
  supporting disciplines;

- Communications --
  transport and
  telecommunications;

- Physical facilities --
  staff and student accommodation,
  classrooms, and
  staff offices;

- Availability of local staff;
- Facilities for field work;
- The university's conceptions of the program; and
- Supplementary teaching resources outside the university.

The members of the mission met in Paris on 5-6 April 1983 to finalize and adopt this report. The findings and conclusions contained therein are the results of the team's joint work and reflect the members' unanimous opinion. The final chapter, "Afterword, July 1985," was written by the editor of this volume and approved by representatives of IDRC and Unesco.

It is hoped that, as a result of the mission, the development of programs in information science will generally be stimulated in the African countries that use English as the language for higher education.

CHAPTER 2: ASSESSMENT OF INSTITUTIONS VISITED

Between 31 January and 26 February 1983, the mission visited the University of Ghana at Legon, three Nigerian universities (Lagos, Ibadan, and Ife), the University of Addis Ababa, the University of Nairobi, the University of Zambia (Lusaka Campus), and the University of Zimbabwe. The dates of these visits and the names of the individuals met are given in the appendix.

This chapter records the mission's impressions of the suitability of each of these institutions as a host for the envisaged program with regard to three broad criteria: conception of and commitment to the program; existing university infrastructure for program maintenance; and external resources for program support. The chapter ends with a general assessment of the suitability of the universities visited as sites for the program.

Conception of and Commitment to the Program

University of Ghana

At the University of Ghana, the program's conception apparently had not been closely considered. It was difficult to discern in the course of the meeting a desire to break new ground. Perhaps things would have been different if the expert on information science in the Department of Library and Archival Studies had not been absent on study leave.

It was noted that the University has had considerable experience in the management of regional programs, including the Regional Institute for Population Studies (RIPS) and the program in archival studies in the Department of Library and Archival Studies.

University of Lagos

In preparation for the mission's visit, the University of Lagos had established a task force consisting of representa-

tives of the various departments whose activities and concerns were considered to be related to information science.

Unfortunately, discussion on the conception of the program could not proceed very far because of a misunderstanding of the purpose of the mission. The University had assumed that the mission was coming to offer a ready made and fully prepared package and had, therefore, felt that, until it had a clearer idea of what the mission itself would propose, it could not fully develop its own ideas or formulate concrete suggestions for the curricula of the courses to be taught under the program.

The Chairman of the Task Force, however, did give a brief indication of the subject areas that he thought the program should cover. He emphasized particularly the understanding and use of computers for data collection, storage, and retrieval, without any suggestion, however, of duplication with traditional courses in library studies.

The idea of a regional program of the type envisaged was not entirely new to the University. There is currently a program in mass communication that, although financed by the University, started initially as a regional centre, and continues to be open to non-Nigerian, as well as Nigerian, students. There is also, within the Department of Computer Sciences, an international postgraduate course in computer science sponsored by the University, Unesco, and OAU.

The mission was assured that there would be a very considerable market, especially in the private sector, for the graduates from an information science program: the rapidly growing demand for the graduates of the departments of Computer Science and Mass Communication to fill a variety of positions in both governmental and private organizations was cited as an indication of current trends. However, the Task Force was unwilling to recommend whether it should be a degree or nondegree program until more detailed guidelines had been provided by the sponsors of the mission.

The University was undoubtedly keen on hosting the proposed program. This was emphasized by the Vice-Chancellor during the mission's meeting with him. It seemed certain that if the University of Lagos were invited to submit a proposal for the envisaged program, it could be provided with little difficulty.

University of Ibadan

At the University of Ibadan, a negotiating team had been appointed by the Vice-Chancellor in preparation for the mission's visit. Several documents had been prepared including a detailed project proposal for the program, designated as the African Regional Centre for Information Science (ARCIS), and a proposal to introduce new Master's degree programs in the Department of Library Studies. The University believed that the program should be administratively distinct from the on-going courses in the Department of Library Studies, but functionally related to them.

On the basis of experience with other programs, the University did not expect any problems with incorporating a program in information science into one of the existing academic faculties, perhaps the Faculty of Education, which includes the Department of Library Studies. Such an arrangement would be necessary to give the program the academic standing required for a degree program.

If a regional program in information science were established, the courses in information science already being taught would be absorbed by the new program, although the content would have to be upgraded to the postgraduate level. Also, various departments and schools in the University offering relevant courses would be fully involved in the proposed program, which would lead to degrees of Master of Information Science, Master of Philosophy, and Doctor of Philosophy. In addition, some relatively short courses would be aimed mainly at retraining practitioners already in the field. The program staff, in addition to providing courses, would be expected to undertake consultancies in the public and private sectors and to carry out research aimed at formulating information technology, for example, ensuring the compatibility of emerging hardware and software configurations.

The University apparently had not had much previous experience with hosting international programs of the kind envisaged, such as the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi and RIPS in Legon. However, members of the staff were fully aware of the work and organization of such programs, especially the fact that their content had to be tailored to the needs of all participating countries.

It is relevant to note that, because of the significant

increase in the number of universities in the country, Ibadan is currently shifting the emphasis of its training from undergraduate to postgraduate degree programs. The idea of establishing the proposed postgraduate program in information science would seem therefore, to be consistent with this new policy.

The University authorities appeared quite confident that jobs would be available for those completing the program. In support of this, they cited the present high demand for the graduates of the Department of Library Studies and felt that the demand for experts in information science would be even greater in both the public and private sectors.

Government funds for universities in Nigeria are apportioned by the National Universities Commission. The mission learned that this body had already indicated its support, in principle, for the type of program envisaged, should it be located at Ibadan. It was also felt that the assurance of such support would be even stronger if, as had been proposed, the program was established within the existing facilities of the University, so that the initial capital outlay would be reduced.

University of Ife

Although the University of Ife obviously had given serious thought to the idea of establishing a postgraduate program in information science and consultations had taken place among the relevant departments, no special committee had been established to consider the program.

From the discussions, it was felt that the University had given reasonable thought to the nature and content of the proposed program. Without going into detail regarding the course components, the faculty members whom the mission met expressed the view that the program should be based on the use of modern data gathering and dissemination techniques, especially the use of computer technology. The program would be accommodated initially within an existing department and would develop gradually into a School of Information Science in its own right, which would also offer courses in library studies. They clearly saw the program as being a multidisciplinary effort involving several disciplines such as computer science, environmental planning, design and management, linguistics, and social sciences. The program would start initially at the postgraduate diploma level and gradually develop to the Master's and PhD levels.

As in the case of Lagos and Ibadan, the mission was assured that employment opportunities for the graduates from the program would be ample.

In response to its inquiries regarding the likelihood of government support for the program, the mission was assured that obtaining official government funding would not present a serious problem, especially in view of the University's past record in managing funds carefully and developing innovative and relevant programs geared to the needs of the country. This was not to say that external funding would not be required for the regional program to be properly launched but simply that the University itself would have little difficulty in obtaining the necessary support from the government to make any reasonable counterpart contributions.

The mission was impressed by the dynamism of the staff and their determination and pioneering spirit.

University of Addis Ababa

It was apparent at the mission's first meetings with officials of the University of Addis Ababa that little collective discussion on the objectives of the mission had taken place among the staff before the visit. That the University was interested in hosting the program was not in doubt. What was not so clear were the specific steps that the University proposed to take to launch the program. Subsequently, however, as the discussions proceeded, a clearer conception of the program began to emerge.

The University of Addis Ababa, perhaps more than any of the other universities visited, is at present intimately involved in planning and developmental activities, from the national level down to the local community level. The vast amount of documentation called for by the decision-making process seems to argue strongly for the training of large numbers of individuals in the techniques of information handling. However, most of those so trained would be required for middle-level information tasks. It was accepted that, without prejudice to the provision of training facilities for such persons, the program with which the mission was concerned was aimed at producing higher level personnel at the postgraduate level.

The University recognized that the program would necessarily involve several disciplines, but it was not prepared to state exactly where it might best be fitted within the

University's academic structure. However, the University favoured either a location within the Faculty of Social Sciences or the creation of a distinct unit within the School of Graduate Studies. In either case, inputs would be made from the quantitative disciplines of computer science, mathematics, and statistics, as well as from such disciplines as economics, business management, and accounting.

With regard to the course content of the program, the University felt that it would have to be substantially different from that of library studies, but the details of the curriculum could be worked out later during the planning stage, bearing in mind the views and needs of other participating countries.

Before it departed, the mission was informed by the President that he had received assurance from governmental authorities of a strong political commitment and a promise of financial support to the program if the University were selected to host it.

University of Nairobi

The mission learned that the University of Nairobi had always been concerned with the personnel requirements of Kenya and had, therefore, been aware for some time of the need for courses in both library studies and information science. Because of national needs, however, what had been proposed was to create a large undergraduate program in these two areas, perhaps supplemented by a relatively small postgraduate program. Also, the University felt that, to attract an adequate number of students, especially those with a science background, such programs should be preferably at the undergraduate level. It was also felt that there should be subprofessional courses at the diploma level aimed specifically at training personnel for public and school libraries. These views were based on the recommendations of two reports on personnel requirements in these areas, submitted respectively by the Kenya Library Association and the Planning Office of the Ministry of Education. An earlier report that was prepared for the Standing Conference of African University Librarians -- Eastern Area was also referred to (Dean 1974).

The argument for laying the emphasis on undergraduate programs was that this would enable the University to meet the large demand for librarians and information scientists in the numerous educational and research institutes in the country most speedily and economically. It was felt that the best role

for a postgraduate program would be primarily for the training of professionals who, in turn, would be able to teach others: the emphasis should be on the training of teachers. In the Vice-Chancellor's view, this approach was particularly desirable in the case of regional programs intended to meet the needs of other countries. The University had had previous experience in hosting regional programs and was firmly convinced that this was the best approach to follow in the present realities of the region. As examples of such regional programs, he cited a number of postgraduate courses so far undertaken by the University in disciplines such as journalism, economics, diplomacy, education (curriculum development), water resources, and computer science.

No attempt was made in the course of the discussion to elaborate on the curriculum of any of the courses proposed by the University.

The University Grants Committee had approved a proposal for courses in library, archival, and information studies at first degree and postgraduate levels to be located in the University of Nairobi. Since that approval, however, the position had changed significantly as a result of the government's decision to establish a second university in the country. The new university was to have a technological base, including a full faculty of information science. The government had indicated in its National Development Plan for 1984-88, then under preparation, that a program in information science should be started during this planning period. However, it remained to be decided whether this program should be based in the University of Nairobi or in the new university, which had yet to be established.

Despite this uncertainty, the University apparently had crystalized its ideas regarding the general aims and organization of its program in this field. The Vice-Chancellor himself had had considerable experience in relevant areas of information handling, especially in the field of medicine and physical sciences, and was most convincing when he spoke about the purpose of a regional program in information science. In particular, he dwelt on the importance of such programs having a component concerned with the training of the users of information. He also emphasized the need for the public to be properly informed and educated about the use of information to create a truly receptive environment for the program.

Throughout the discussion, the Vice-Chancellor emphasized

the need for any program in information science at the University to address itself primarily to meeting Kenya's personnel requirements in this field, or at least to take serious account of them. He suggested that, for a regional program to enjoy local support, it would be expected to allocate not less than 50% of the student intake to Kenyans. The mission did not discuss this particular point, but its message was fully understood.

Undoubtedly, the University was interested in having a program in information science. It had been in touch with organizations such as Unesco on this matter and an earlier visit by an IDRC representative had confirmed this. Apparently, however, not much attention had been given to the question of establishing a regional, as opposed to a purely national, program nor was the mission given the impression of highly enthusiastic support for a regional program. The indications seemed to be that whatever the outcome of the present mission, the University and the government were determined, at that time, that Kenya should have a university program in information science as well as in library and archival studies. However, the Vice-Chancellor did not rule out the possibility of the University hosting the proposed regional program, subject to further discussion of the details.

University of Zambia

In the discussions with both the Vice-Chancellor and the Deputy Vice-Chancellor of the University of Zambia, the mission was assured of the University's strong interest in hosting the program. The Deputy Vice-Chancellor referred to the various research institutes in the country and to the Ministry of Agriculture and Water Resources as examples of organizations where the need for organized information was known to exist.

The University Secretary gave, as justification for the location of the program in Zambia, the country's acute shortage of locally trained senior personnel in this field, as well as the high cost involved in training such persons abroad. He mentioned, as one of the advantages of the University hosting the program, the fact that certain physical facilities occupied by the United Nations Institute for Namibia and the Commonwealth Youth Programme, based in Lusaka, were likely to revert to the University in the foreseeable future.

The matter of the conception of the program was not

tackled until the formal meeting with the representatives of departments. The general impression gained by the mission was that, although a few individuals, such as the professionals in the field of information and others whose work and interests entail constant search for information, had a fairly clear conception of the proposed program, most of those it met did not.

The specialists in computer science also appreciated the contribution that knowledge of computer technology could make to the program, even though they seemed to lack experience in the actual application of this technology to bibliographic problems.

Another point that the mission noted was that, despite suggestions that a large number of departments would benefit from the proposed program if it were located in the University and might also be able to contribute to it, few of these departments seemed to have a clear idea of the relationship between their respective disciplines and information science.

It was obvious, throughout the discussions, that the University saw the proposed program as primarily serving the personnel needs of Zambia. However, it was generally accepted that, as a regional program, it would have to account for the needs of participating countries.

With regard to the location of the program within the academic structure of the University, the view of the professionals was that it would be an entirely separate unit from the Department of Library Studies, but closely associated with it. If necessary, however, the program could start, in its embryonic stages, as part of the existing Department of Library Studies, although retaining its own identity.

The details of the curricular structure of the program were not discussed nor were the kinds of qualifications to which the courses would lead. However, it was clearly understood that these details would need to be worked out in consultation with the participating countries during the preparatory stages of the program, as had been the case with the proposed Regional School of Veterinary Medicine, which was to have been based in the University of Zambia.

The mission was assured both by the University authorities and by the officials it met in the Ministry for Higher Education and the National Commission for Development Planning that the

government would consider providing financial support to the program favourably if this was requested formally by the University as a priority item. The University itself indicated that it would approach the development of the program so that the required financial outlay would be absorbed, as far as possible, in the regular University budget to facilitate the acceptance of the program by the government.

University of Zimbabwe

In the discussion with the University Librarian, the mission was made to understand that the University of Zimbabwe did not, at present, have programs in either library studies or information science, although he felt that it would be interested in a postgraduate program in the latter. The country was then engaged in an extensive program to upgrade the quality of community life in the rural areas, and establishment of some 55 rural libraries was planned. Therefore, middle-level library personnel who could staff these, as well as the school, libraries were urgently needed. Official government policy was that, until a permanent training centre for the course could be built, the most effective way to meet this need was to establish a 4-year postsecondary diploma course in librarianship at Belvedere Teachers' College in Harare. The University of Zimbabwe would award the diploma and provide teaching support for the course but, in all other respects, the Teachers' College would be responsible for it.

The Vice-Chancellor assured the mission that the University recognized the importance and value of information science, but did not regard a postgraduate program in the field as one of its present priorities because of the large number of other programs that needed urgent attention to meet important national goals, as well as the limited financial and other resources available to the University.

He felt that, as things now stood, even if the proposed program were to be wholly financed from external sources, he could not see the University taking it over at some future date if this would involve the University assuming any financial or other obligations, especially if the program was intended to serve other countries as well as Zimbabwe. In his view, in establishing any program in the University, whether it was local or regional, the crucial test was what Zimbabwe stood to gain from it. He was convinced that, for the present, the most realistic way for the country to meet its personnel requirements in information science would be to take advantage of

training facilities outside Zimbabwe. He hoped, however, that the proposed program would be located within eastern Africa, which, he felt, had superior transport and telecommunications facilities to those available in western Africa.

In the light of the discussion with the Vice-Chancellor, the mission did not consider it necessary to explore any further the University's willingness or capability to host the program. Therefore, the mission, in its discussion with the professionals in librarianship and archival studies, focused its attention on identifying Zimbabwe's needs in information science and how it was proposed to meet these needs.

Most of those present at the meeting recognized the importance of information science and the complementary role it could play in both the public and private sectors to the work of professional librarians and archivists. Opinion was divided, however, as to whether the time was ripe now for Zimbabwe to establish or support a postgraduate program of the kind the mission had in mind, either within the University or elsewhere in the country.

The general feeling seemed to be that the present realities and needs of the country in the information field called primarily for emphasis on the training of librarians at subprofessional rather than full professional levels. Only when a sufficient number of such persons had been trained could the country consider embarking on more advanced and sophisticated training programs, such as a full-fledged postgraduate program in information science. In this connection, the point was made that, in drawing up programs to train those who would handle information, attention should not be concentrated only on librarians and information scientists, but also should be extended to archivists, in view of their very important role in preserving certain types of information that are of particular concern to developing countries.

With regard to the training of information scientists in Zimbabwe, the mission was made to understand that the countries forming the Southern African Development Coordination Committee (SADCC) had endorsed the establishment of an information collection and dissemination facility for the southern African region. It was expected that the coordinating focus for this facility, which would be known as SADIS (Southern African Development Information System), would be located in Zimbabwe. In addition to providing service to the region, the facility would also train information scientists for

both the public and private sectors. Although the details of the proposed training program were not elaborated, the mission understood that the program would be closely associated with the University.

It became obvious, in the course of the discussion, that the proposed SADIS training program would be of a different character from the regional postgraduate program in information science envisaged by the mission, not only as regards its geographical coverage, but, more importantly, in its level and content.

Finally, a suggestion was made that, at present, the personnel needs of Zimbabwe in the area of information science might be better met by the establishment of a program consisting of a combination of courses in information science and in library and archival studies. Interesting though this idea was felt to be, the mission could not react to it seriously because it fell outside its terms of reference.

Existing University Infrastructure for Program Maintenance

University of Ghana

It was quite evident that in all the relevant departments, especially the Department of Library and Archival Studies, the staff of the University of Ghana was greatly depleted, either through resignation or absence on study leave. Thus, only one of the persons mentioned in the Vice-Chancellor's letter to the Secretary-General of ACU in 1981 as being capable of handling various aspects of the proposed program was present in the University when the mission visited it.

According to the departmental prospectus, the course in library studies included a section on information science, with quite a wide coverage, but the lecturers who were responsible for teaching these courses were out of the country studying for their doctorates. It was the University's view that, until these lecturers returned, it would not be possible to say with certainty whether a postgraduate regional centre in information science of the kind being considered could be regarded as a high-priority area. It was felt that, for the immediate future, it would be better to use the available resources to strengthen the relevant sections of the library and archival studies program.

The mission was assured that accommodation for a new program would pose no problem. However, the account given of the available hardware and software in the University's Computer Centre suggested that the existing facilities were somewhat limited because of serious financial constraints.

Ghana and its universities were going through a very difficult period. It did not appear to be the right time to expect the University of Ghana to venture into the area of information science to help meet the needs of the whole of anglophone Africa.

University of Lagos

Among its existing units, the University of Lagos had a Department of Computer Sciences, a Computer Centre, and a Department of Mass Communication.

The Department of Computer Sciences had 10 senior staff members who were highly qualified and exhibited a striking measure of self-confidence in their capabilities. It offered courses leading to Bachelor's, Master's, and PhD degrees. It was equipped with one Cardo microcomputer, two Apple microcomputers (with an additional two on order), and a hybrid computer. The curriculum was organized so that students had adequate laboratory facilities to familiarize themselves with the internal workings of computers and their use. The Department was also involved in the preparation of software support for administrative units and faculties of the University. Unfortunately, the University Library, which was then automating its facilities, services, and procedures, had not benefited from this service.

The mission did not actually visit the Computer Centre, but was informed that its equipment included an IBM 370 with 256K memory. The Centre offered general services to the University as a whole, and very fruitful functional links existed between it and the Department of Computer Sciences. As with the Department of Computer Sciences, the smooth running of the Centre had tended in the past to be disturbed by frequent electricity stoppages in the national network. However, this problem had been greatly reduced by the installation of stand-by generators. Another hazard, general to almost the entire continent, is the prevalence of dust, which interferes seriously with the efficient working of computers. Again, this problem had been largely controlled through the use of air conditioners and the provision of dust-proof rooms.

The Mass Communication Department began as a regional centre supported by Unesco, but is now wholly financed by the University. Its equipment consisted of a printing press, studios for training students in broadcasting techniques, and television facilities for use as a closed-circuit system within the University. The courses it offered were a diploma program, a Bachelor's degree, and a Master's program, which had a wide appeal. In addition, the Department organized ad hoc workshops as part of its continuing education program. The specimens shown of the Department's publications, which included student newspapers and an in-house journal, were very professionally executed. The training offered to students included field studies and research in media resources.

The mission did not visit the Department of Business Administration but was informed that it was the strongest in the country and that a number of local organizations prefer its graduates to those from business administration schools and departments elsewhere, including Harvard. In addition to the traditional ones, courses had recently been started in estate management and industrial relations. The mission learned that a course in management and information systems was also under consideration, although its departmental location had still to be decided.

Apart from these departments, other sections of the University that could contribute to or benefit from the proposed program in information science were the University Library and the Information and Planning units, both in the Vice-Chancellor's Office. These would be essentially user units, but they could also offer useful training facilities for the proposed program.

The University also had a Continuing Education Centre that coordinated short-term retraining courses for practitioners. This facility could be used within the proposed program.

In considering the available resources within the University for supporting the program, the mission noted what it considered to be a planning weakness. It appeared possible that, at present, even though a number of vital material and human resources for development were available in different areas of the University, use of these resources might be insufficiently coordinated. A good example of this was the project to automate the Library -- this seemed to be insufficiently interlinked with the resources and expertise available in the Department of Computer Sciences, even in such obvious

matters as the evaluation of the type of equipment to be purchased and its installation.

The available plant and equipment suggested that a viable infrastructure was already in place. The fact that the entire cost of establishing a program would not be borne by the sponsors of the mission and that the host institution would be expected to bear a major part of the cost seemed to be clearly understood.

University of Ibadan

As mentioned earlier in this chapter, courses in information science were already being taught within the Department of Library Studies at the University of Ibadan. Also, various other departments and schools in the University that offered relevant courses would be fully involved in the proposed program.

With regard to staff, it was fairly clear that the University already had enough qualified persons on staff in the relevant fields to provide a good nucleus. Some of these areas are the departments of Library Studies, Computer Science, and Statistics and the Computer Centre. However, more staff would have to be recruited and trained to implement the program fully.

The University had adequate facilities for the Department of Library Studies and these could be expanded easily to support the new program. It also had excellent library facilities, including a good basic collection in library and information science. In addition, a building close to the Department of Library Studies had been earmarked to accommodate the offices of the program. However, this building, as the University itself recognized, would require considerable renovation and modification. Also, the facilities for training in computer science would require expansion to meet the needs of the program. In spite of these reservations, however, the existing physical facilities and the academic environment in the University appeared highly favourable for mounting the proposed program.

A rather serious problem at the time was the electrical power supply: it was marked by frequent breakdowns and blackouts. This greatly impaired the smooth running of several services and facilities, most notably, the operation of the Computer Centre. The mission learned, however, that the

University was taking steps to deal with the problem as far as the campus itself was concerned by installing an unlimited power supply system.

Ibadan has no serious transport problems. It is quite close to the Lagos International Airport, which has ready connections with other parts of the world, and it enjoys reasonable access to various government and commercial offices in Lagos. The opening of the new airport at Ibadan should further improve the position. Unfortunately, telephone services were rather inadequate but telex communication was available.

University of Ife

Possibly because of the absence of a program in library studies, it appeared that the staff of the University of Ife did not include any persons with formal training in information science. A small nucleus with some relevant expertise was available, however, in the Computer Centre and the Department of Computer Science. Also, in line with the University's conception of the program, it seemed that staff from other subject areas could be used.

With regard to the physical facilities, the software and hardware in the Computer Centre and the Department of Computer Science (especially the latter) appeared capable of giving adequate initial support to the program. It is worth noting, in this connection, that staff placed great emphasis on the need for the University to develop the capability to produce some of its own software. The Department of Computer Science emphasized the use of microcomputers rather than mainframe or minicomputers for teaching purposes and for handling administrative tasks.

The Library could also serve as a useful tool for training purposes, but its facilities, although good, would need to be considerably augmented, especially in the development of collections and qualified staff, to give adequate support to the proposed program.

Ife is somewhat isolated in relation to Lagos, the national capital and commercial centre. However, it was explained that traffic within Lagos was so congested that it was sometimes easier and quicker to reach the centre of the city, as well as Lagos International Airport, from Ife than from certain parts of Lagos itself.

With respect to telephone and external telecommunications, however, Ife was clearly at a disadvantage. It lacked direct links with Lagos and other major communications centres within Nigeria, and establishing ready links with data centres outside, or even within, Nigeria could present serious problems.

As with other parts of Nigeria, Ife suffered from erratic electrical supply and frequent blackouts. This had already caused serious damage to expensive computer equipment. Fortunately, this sad experience had led to the installation of safety devices that should help to protect the equipment in the future.

University of Addis Ababa

The University of Addis Ababa had several libraries scattered among its colleges, campuses, and faculties. The main library at the Addis Ababa campus was large, spacious, and well equipped with respect to bibliographical tools, reference materials, journal collections, and other research resources. With a few additions geared to the needs of an information science program, it could serve satisfactorily to support the proposed program.

The Systems Design and Data Processing Centre, which served as the University's computer centre, was also reasonably well equipped. It had a V-8455 computer, two disc units, and several IBM 29 keypunch machines, as well as NCR 7500 encoders. Its main function was to provide services to the University administration and faculties. It was not set up for training students at a high level in aspects of computer science, as would be necessary in the envisaged program. Also, relevant laboratories for training students were noticeably absent.

The mission was assured that, in the initial stages at any rate, the provision of lecture rooms and residential accommodation for both students and staff would not present any major problem.

The University did not appear to have any qualified information scientists on its staff. However, the mission was informed that, in addition to the Head of the Computer Centre, at least two persons in the physical sciences and mathematics faculties had training in computer science. The University offered a 2-year diploma course in library science, but there was no indication that any staff input could be expected from

this source. Despite the suggestion by the University that staff from other relevant areas could be involved in the program, it was obvious that most of the staff required would have to be specially recruited or trained for the purpose.

Addis Ababa undoubtedly has a number of obvious locational advantages: air and telecommunications services are excellent. Attention was drawn to the large number of anglophone countries within the eastern African subregion, and Addis Ababa's strategic location in relation to these countries. Finally, the congenial social environment provided by the large number of people from different African countries working in the many international organizations and embassies located in Addis Ababa was mentioned as an added incentive for recruitment of staff for the program.

University of Nairobi

The mission was given a brief indication of the available facilities in the University of Nairobi that could be used to support a program in information science. The University offered courses in computer sciences, although it did not have a computer centre as such. The equipment in the Computer Sciences Department consisted of an ICL computer and a number of microcomputers for word processing. The University also ran courses in journalism and communications, which could supply useful inputs into the program. The University Library, which was to be accommodated in a new and more spacious building then under construction, planned to automate more of its activities when it moved into the new building.

University of Zambia

The University of Zambia consisted of two distinct campuses, located at Lusaka and Ndola, with a third one planned for Kolwezi. Each campus had its own academic and administrative staff, headed by a principal, and handled certain designated disciplines. Because the central administration of the University of Zambia was located at the Lusaka Campus, the mission decided to confine its visit to that campus.

The University did not run full courses in information science, but it offered courses in librarianship as part of the Bachelor of Arts degree programs. There was also a diploma course for the training of subprofessionals in librarianship. The courses in computer science were given by staff from the

Computer Centre, which is a general university facility, and from the departments of Mathematics and Engineering. However, there were plans to start a BSc course in computer science in 1987, and two students were undergoing postgraduate training abroad for this purpose. The staff from these programs could provide inputs into the proposed postgraduate program. Some of the staff from the Department of Library Studies and the University Library, especially those with training in information science, could similarly provide support. These persons, however, could not be regarded as sufficiently capable to undertake full responsibility for the program, and would therefore need to be supplemented by more experienced staff from outside Zambia. There appeared to be no other source within the country from which additional staff could be drawn. The possibility of using staff from other departments could not be ruled out completely, but the immediate prospects did not appear to be good.

The University had a good functional library that, with a little improvement in collection development within the areas of the program, could offer adequate support for the proposed program. Another major source of physical input was the Computer Centre, which had a leased ICL 2904 interactive system with nine terminals, three of which were located in various departments of the University -- there were plans to increase the number of terminals. The computer was, then, used at least 15 hours/day but, apparently, there would be no difficulty in allocating time for work connected with the program. However, additional but less expensive equipment would have to be installed for teaching and to provide practical training for the students. Although various parts of the University were using the available computer resources in connection with their work, the University Library had not yet been able to take advantage of these resources.

The situation in the University with respect to staff and student accommodation, as well as classroom space, appeared tight. However, as mentioned in the previous section, additional accommodation was expected to become available when the building occupied by the Commonwealth Youth Programme, located on the Campus, reverts to the University in the near future when the program in Zambia ends. Another facility that the University expected to inherit is the premises of the United Nations Institute for Namibia, located in Lusaka, which will be vacated when Namibia becomes independent. If these additional facilities were, in fact, to become available, the University would be in a better position to accommodate the

program in the initial stages but it would definitely be necessary to provide additional space as the program developed.

The mission noted that Zambia had good air transport connections to the rest of eastern and southern Africa and, via Nairobi, to western Africa. It also had excellent telecommunications connections with the outside world, although links with western Africa were not as good as they might be. On these counts, therefore, the program would face no difficulties if it were to be located in the University of Zambia.

University of Zimbabwe

As explained earlier, in the discussion of the conception of the program, the mission did not explore the existing infrastructure at the University of Zimbabwe as to its capability of sustaining the proposed program.

External Resources for Program Support

University of Ghana

The discussion that the mission had with officials at the University of Ghana did not reveal any resources outside the University that might be tapped for the program.

University of Lagos

The discussions concentrated on the many resources available at the University of Lagos to support a program. However, the mission was informed that 95% of the computers in Nigeria and the same percentage of computer professionals were located in Lagos. This was regarded as strengthening the claims of the University as the seat for the proposed program. Although these questions were not discussed in detail with the University's Task Force, it seemed possible that useful practice work and group visits could be arranged in the Lagos area and that specialists could be identified in various fields to serve as part-time instructors for certain parts of the program.

University of Ibadan

The mission visited the International Institute of Tropical Agriculture (IITA), near the University of Ibadan campus. This Institute could provide an important input to the program

through its computer section and the facilities of its Library and Documentation Centre, parts of which were to be automated. Staff members of the Institute might participate in the teaching of some of the courses at the University and staff members of the National Library and other institutions in Lagos sometimes lectured in the Department of Library Studies. It should be practical to arrange for specialists based at the University of Lagos or other institutions in that city to participate in an information science program.

University of Ife

During the discussions, resources outside the University of Ife campus that might be used to support a program located at Ife were not mentioned. Its somewhat isolated location no doubt explains this.

University of Addis Ababa

The University of Addis Ababa stressed that, apart from the facilities within the University itself, additional resources might be tapped in various institutions in Addis Ababa. The Documentation Centre of the International Livestock Centre for Africa (ILCA) and the PADIS program of ECA were mentioned in particular. The mission subsequently visited both institutions and found them to be well equipped for providing practical training and for demonstration purposes.

ILCA had an HP 3000 (series III) computer, with MINISIS software for handling bibliographic information. It also had good production facilities for microfiche and maintained good contact with a large number of national focal points in the region that would be covered by the program. The Documentation Centre could, without any doubt, offer facilities for technical training and practical work in such areas as indexing and abstracting of documents. Of course, formal negotiations would have to be made if these facilities were to be used by the University for the program. In its discussion with the Director of ILCA, the mission was assured that, in principle, such collaboration would present no problems.

The PADIS program of ECA, although relatively new, was also very well provided with equipment, similar to that at the Documentation Centre at ILCA, and had a large number of terminals for batch and transaction-processing operations, including on-line access to in-house data bases. ("Transaction-processing" implies operations in which individual items are

processed one at a time on-line to the computer rather than in groups off-line.) Also, as at ILCA, there was equipment to produce microfiche. There were plans to develop a network of subregional and national focal points. All this represents a most important potential resource for training under the proposed program.

In addition to the physical and technical resources, the staff in both PADIS and ILCA's Documentation Centre, especially the latter, could perhaps be used to reinforce the full-time teaching staff in the program. The excellent relationships that the University enjoys with ECA, OAU, and ILCA would tend to strengthen this possibility.

University of Nairobi

The discussion that the mission had with officials of the University of Nairobi did not identify resources apart from those at the University that could contribute to mounting a program. It was clear, however, that these did exist, for example in the facilities of such international agencies as the United Nations Environment Programme (UNEP) operating in Nairobi. These might be tapped to reinforce the program.

University of Zambia

Resources outside the University of Zambia to strengthen its capacity for mounting an information science program were not identified during the mission's discussions, and they may be limited. Particularly, it was mentioned that it might be difficult to identify elsewhere in Zambia persons with training in information science who could be used to augment the teaching staff even on a part-time basis.

University of Zimbabwe

At present, resources appear to be limited outside the University that could be drawn on to reinforce any program in information science that might be set up there.

General Assessment of Universities Visited

University of Ghana

The difficult economic situation that Ghana and its universities were facing seemed to limit the possibility for the

University of Ghana to take on new commitments and it raised questions about the prospect for continuity of any new regional program established there.

The University had long been a leader in librarianship studies and had a regional school of archival studies in operation. It was providing graduate-level teaching in the cognate disciplines of computer science, linguistics, and business administration. The university library was good.

Although classrooms and staff offices could be made available, there appeared to be problems with transport and international communications and other infrastructural elements necessary to support the program. Very few teachers then at the University could contribute to an information science program and facilities in Accra appeared to be limited for practice work and field work, particularly for applications of the new technology to information handling.

It was known that Ghanaian specialists outside the University might be called on, at least on a part-time basis, for teaching.

University of Lagos

The University of Lagos seemed keenly interested in hosting the proposed program. The success that it had had with integrating regional programs in related fields into the regular offerings of the University was an indication of good potential for the continuity of any program located there.

The mission noted as positive factors the presence of a central university library in an imposing building in which mechanized procedures were just being introduced as well as the presence of good computer facilities and strong existing teaching programs in computer science, mass communications, business administration, and other disciplines related to information science.

Lagos was well supplied for international transport and telecommunications to serve as a host city to a regional program.

It appeared that there would be little difficulty in providing student accommodation, classrooms, and staff offices. The related disciplines mentioned earlier have strengths that could be drawn on to provide teachers, at least

during an initial period. There were good possibilities for arranging helpful field work and group visits for students, both at the University and in institutions and government bodies in the Lagos area. It appeared that some supplementary part-time teaching staff might be identified in Lagos.

Although the University had not formulated very concrete ideas about the desirable form of a regional program in information science, there was no doubt that it could, if invited, quickly prepare a stimulating proposal.

University of Ibadan

The University of Ibadan was eager to undertake the program for which a detailed proposal had been carefully prepared. Although it had had only limited experience with running regional programs, there was general awareness of the character of such programs and the importance of planning them to meet the needs of participating countries.

The long tradition of providing high-level education in the information field at Ibadan and the University's new designation as a centre for postgraduate degree programs were viewed as convincing signs of probable continuity in the operation of a regional information science program.

The University Library was excellent and, although they would soon require expansion, the computer facilities were sufficient at present to permit the launching of a program. The University had strengths in several related areas including library studies, computer science, statistics, and the Computer Centre.

Transport connections via Lagos with other countries were good and telecommunication facilities were satisfactory.

Classrooms that could be used to accommodate a new program were available and the University had identified convenient space for staff offices that, after renovation, would be very satisfactory. The University had plans for extending its student housing facilities that would provide good accommodations for students from the region. The present faculty of the University could be drawn on to provide a nucleus of teachers for some subjects even though more staff would have to be recruited to implement the program fully.

The impressive facilities of IITA were among those off

campus that would be available to provide practical work for the students. Staff of the Institute might be used to teach some courses and it might also be possible to tap expertise in special subject areas from Lagos.

The University had considered the conception of a program seriously and had demonstrated convincingly, while presenting their concept to the mission, the University's numerous strengths in fields closely related to information science and its general academic environment that could contribute to successful implementation of a program.

University of Ife

The University of Ife had given considerable thought to establishing a program in information science and undoubtedly there was genuine interest in having it located at Ife. There was pride in the University's record of developing innovative programs that contributed to solving development problems. Financing for the support of such efforts had always been forthcoming and prospects for continuity of a program once established at the University seemed rather bright.

Considerable development of collections in the whole information field as well as additional professional staff would be required in the University Library if an information science program were to be offered. Computer hardware and software in the Computer Centre and the Department of Computer Science were already sufficient to give significant support to the initial phases of a program. These same units might provide some relevant expertise in information sciences.

With regard to telephone and telecommunications, the University of Ife was less well provided for than the other Nigerian universities visited. In spite of the considerable distance involved, surface transport to the Lagos International Airport was not difficult.

It appeared that the spacious and impressive campus offers an excellent environment for academic work and could provide staff and student accommodations, class rooms, and staff offices for a new program.

The University envisaged a multidisciplinary program with a strong emphasis on the applications of computer technology to information handling. This would clearly complement existing areas of emphasis at the University.

University of Addis Ababa

The University of Addis Ababa's interest in hosting the program was very apparent. The presence in Addis Ababa of important ongoing information services at ILCA and ECA, the presence of OAU, and the excellent relationships that the University enjoys with these organizations contribute to the potential for maintaining a regional program once it is begun. The interest of the government was also evident.

The library building was modern and well maintained with good documentary resources that could, if the materials in library and information sciences were enriched, support the program. The University's computer facilities would require some reinforcement, but the availability at institutions in the community of excellent resources in this area would reduce the amount needed and permit the gradual development of these resources as the program developed.

The identification of lecture rooms and residential accommodation seemed unlikely to pose serious problems.

International transport and telecommunication facilities were excellent.

A substantial program of staff development would be required to provide the necessary core of permanent teachers for operating an effective program. Facilities for practice work in the community were excellent and it appeared that some part-time teachers could be identified in other institutions in Addis Ababa to assist the full-time teaching staff in special subject areas.

The University conceived of a program that would be multidisciplinary. Specific course content would be determined only after serious canvasing in the countries to be served to identify precisely the information needs that had to be met by existing and planned information systems and services and for which the graduates of the program would need to be prepared.

University of Nairobi

Interest at the University of Nairobi in setting up a regional postgraduate program of the kind with which the

mission was concerned was limited. Kenya's efforts to prepare information specialists would follow other patterns and be primarily concerned with filling needs at other levels.

A new university library building was soon to be completed and some equipment in the Computer Sciences Department might be available to support an eventual program. Useful inputs might perhaps be expected from other subject areas in which the University offered courses, such as journalism and communications.

For international transport and telecommunications facilities, Nairobi would provide an excellent location for a regional program.

It seemed that there might be sources outside the University including international agencies operating in Nairobi such as UNEP and the United Nations Centre for Human Settlements (Habitat) that could perhaps contribute to implementing a program in Kenya by making physical facilities and professional expertise available.

Although not doubting the need in Africa for a regional postgraduate program in information science, the University seemed primarily interested in mounting -- should the Government decide that Kenya's program should be located at the University of Nairobi and not at the new second university -- a national program that would train librarians and archivists as well as information scientists to fill Kenya's needs.

University of Zambia

Interest in hosting a regional program in information science at the University of Zambia was strong. Although the importance of filling national needs for expertise in this area was frequently mentioned, there was also some concern for regional requirements. The prospects for continuing a program, once launched, at the University seemed good if the patterns followed up the the present were continued.

There was a good university library. Its collection in the library and information sciences area would require reinforcement to support the proposed program. The University's computer equipment, limited principally to a mainframe computer and terminals at the time of the mission's visit, would also need to be improved to facilitate teaching and to provide

practical experience with the smaller computers that are now widely used. The University had operated a Bachelor's degree program in librarianship as well as a related diploma course for subprofessional staff for many years. Some courses in computer science were also taught.

Lusaka enjoys good international air transport and has excellent telecommunication connections.

The provision of staff and student accommodations as well as classrooms for a new program could pose problems, although for short-term needs the University hoped to take over two premises in Lusaka that were being used for other purposes. Ultimately, additional new space would have to be provided.

A limited number of teaching staff for a new program might be identified among the teachers of related disciplines including library and computer sciences. However, an extensive staff development program would clearly have to be launched. Facilities for practice work and supplementary teaching resources outside the University appeared to be minimal.

The University had not yet formulated a very precise conception of a program in the information science area. It was understood that the needs of other countries that might send students would have to be reflected in the preparation of a detailed program.

University of Zimbabwe

Although recognizing the importance and value of information science, the University of Zimbabwe did not regard adding either a national or regional postgraduate program in this field as one of its present priorities. Therefore, no canvas was made of existing infrastructures at the University and in the country that might contribute to the establishment of a program. The mission was informed about plans to launch a 4-year postsecondary diploma course in librarianship at Belvedere Teachers' College and a proposed training program being considered in connection with establishing SADIS. Both of these differed substantially from the program envisaged by the mission in audience, level, and content and therefore lay outside its terms of reference.

By the end of its visit, it was quite clear to the mission that the University of Zimbabwe, despite its support for the

idea of the program, was not in a position to host it in view of its current concern with more urgent developments aimed at meeting important national needs. There was no mistaking the fact, however, that both the University and the city of Harare, could offer a highly stimulating and challenging environment for work in the field of information science.

CHAPTER 3: CONCLUSIONS AND RECOMMENDATIONS

Unesco and IDRC, through execution of their programs and activities within Africa, have for some time been keenly aware of the urgent need for human resource development in the field of information science. The visits by the mission to the eight universities further substantiated this need. Each of the vice-chancellors, as well as the other academics, administrators, and professionals with whom the mission met, identified the absence or scarcity of properly trained information specialists as the primary stumbling block in the development of effective information programs. Those at the highest decision-making levels in each of the universities visited agreed fully that a strong information infrastructure was essential to advance social and economic development at national and regional levels within Africa.

It was gratifying to find that, although the idea of the mission had been initiated outside Africa, agreement among African educators and policymakers was unanimous regarding the vital importance of its purpose. In spite of this, the importance of its task was not lost on the mission. Because of the geographical spread, vast area, and population size of the anglophone countries of Africa, the mission felt from the start that a single postgraduate program located in one university would not by itself solve the problems of training information personnel for the entire region. It was recognized, however, by both the mission and those individuals whom it met that the establishment of the program, though not sufficient, was absolutely necessary as a first step. The mission believes that once such a program is established and is seen to be successful, the ideal will spread rapidly.

Chapter 2 presents a summary of the discussions held with university officials and other persons with relevant knowledge and interests. It is important, however, to emphasize that the very strong interest in and support for the program shown by university personnel were also shared by many government officials.

Official support for the proposed program was particularly evident in Nigeria, Ethiopia, and Zambia. In Nigeria, the mission learned of the commitment by the federal government to support the establishment of a postgraduate training program in the field of information technology and related disciplines. The support by the National Commission of Universities, which is administered by the Ministry of Education, has already been mentioned. New programs at the postgraduate level must be approved by this Commission before implementation and, as indicated, the University of Ibadan had already received authorization to establish a postgraduate program in information science with a regional mandate.

In Ethiopia, the mission was assured that the government had politically endorsed and financially committed itself to the establishment of a regional postgraduate program at the University of Addis Ababa. The very strong interest in the program expressed by international organizations and agencies, especially ECA and ILCA, based or maintaining offices there should also be mentioned.

In Zambia, lengthy meetings were held with the National Commission for Development Planning and the Ministry for Higher Education: both these agencies must approve the establishment of postgraduate programs with a regional mandate. Although "Zambianization" is undoubtedly a top priority with respect to the creation of a core of trained personnel in all sectors, it was evident that, at the governmental level, Zambia supported a regional postgraduate program in information science.

In Zimbabwe, although the question of official support for the program was not discussed in specific terms, the government was clearly interested in the development of appropriate programs in information science, although not necessarily within the context of the University as envisaged by the mission.

In Chapter 1, the criteria established for evaluating the universities' capabilities to support the postgraduate program were given. On the basis of the scoring that emerged from the application of these criteria, the universities were ranked in the following order as potential hosts for the program

1. University of Ibadan, Nigeria;
2. University of Lagos, Nigeria;
3. University of Addis Ababa, Ethiopia;

4. University of Zambia, Lusaka;
5. University of Ife, Ile-Ife, Nigeria;
6. University of Zimbabwe, Harare;
7. University of Nairobi, Kenya; and
8. University of Ghana, Legon.

The mission was required by its terms of reference to identify a university that could support a regional program in information science at the postgraduate level. However, as mentioned earlier, the vice-chancellors of ACU, in their discussions in Hong Kong in 1981, had suggested that at least two programs were necessary to serve anglophone Africa. As it neared the end of its work, the mission felt obliged to adopt the same view, although its principal goal had been the identification of a single centre for the program. This was because of the vast size of the region and the high standard of work in relevant fields already in progress in many of the eight universities visited. Also, it was evident, both from the mission's own observations and from the comments of many persons in eastern Africa, that a serious communication "watershed" existed between the countries of western Africa and those of eastern and southern Africa. This would seem to point to the desirability of establishing two centres in the region so that the needs of each part could be met adequately.

On this basis, the mission made the following five recommendations.

- Two regional programs in information science, one in western Africa and the other in eastern and southern Africa, should be established.

- From the ranking given above, the obvious choice for western Africa was the University of Ibadan. This choice was strengthened by the fact that the Government of Nigeria was prepared to support one regional postgraduate program in information science and, through its National Commission on Universities, had authorized the University of Ibadan to seek external support to establish such a program. The program proposal submitted to the mission by the University of Ibadan suggested that the amount of external funding likely to be required would be relatively modest. This should enhance the chances of mobilizing support from donor agencies and for launching the program fairly quickly.

- Because of the high ranking attained by the University of

Lagos, that institution should be kept in mind as a possible location should the University of Ibadan for any reason be unable to host the program.

- As the location with the highest ranking in eastern and southern Africa, the University of Addis Ababa was the obvious choice for this part of the region. Attention should be drawn briefly to the impressive concentration of other supporting organizations and agencies in the city; these would provide an unparalleled environment for the proposed program, especially with regard to the practical work. It should be pointed out, however, that despite the highly favourable locational and environmental advantages enjoyed by Addis Ababa, the absence of an adequate infrastructure in the University could constitute a serious drawback for the ready implementation of the program. The willingness of donors to provide the additional, needed financial support will be crucial to the success of the program.

- Much as the mission would have liked to recommend an alternative should the University of Addis Ababa not be able to host the program, it was unable to do so in the prevailing circumstances.

The mission recognized that it would not be possible to implement the above recommendations until preparatory processes had been set in motion. These matters did not, strictly, fall within the mission's terms of reference, but they were so important to the success of the program that they required serious attention. The members, therefore, added a further recommendation regarding these processes.

- The next step was to work out academic and administrative models for the program for application at the institutions selected, taking into account local circumstances, needs, and capabilities. It would also be necessary to develop detailed implementation schedules. For these two tasks, the mission recommended the establishment of an interim planning committee composed of information specialists and individuals with broad academic and administrative experience. This committee would work in close consultation with the universities selected for the program and with the sponsoring agencies.

AFTERWORD, JULY 1985

Early in 1984, staff members of Unesco and IDRC met with officials of the University of Ibadan and also with those of the University of Addis Ababa to discuss plans being made in these institutions to implement the two programs and to identify ways in which Unesco and IDRC might contribute to advancing this work.

University of Ibadan

At Ibadan, preparations were already under way to mount ARCIS as one of the University's centres of excellence with a regional vocation. ARCIS will draw strength from the units of the University concerned with library studies, computer science, economics, and social sciences and the planning done foresees the establishment and maintenance of formal and informal links with these and other university units that may contribute to its program. Administratively, ARCIS will be an institute in the Postgraduate School of the University.

Some tasks of the centre when fully operational will be

- To train and retrain high-level personnel for Africa in information science, essentially through seminars, workshops, and higher-degree programs. The graduates will serve as leaders in the practice of information science as well as trainers of information personnel;

- To engage in problem-solving research into all aspects of information science in Africa; and

- To serve as a reservoir for consultants in information science to African governments and institutions.

The January 1984 discussions made it possible for the University to prepare a phased plan to implement the ARCIS objectives. Among the tasks planned for Phase I (February 1984 - September 1985) were establishing a staff-development

program; undertaking negotiations with possible funding sources; organizing a Curriculum Design Experts' Group Meeting and a Curriculum Assessment Meeting; participating in related seminars, workshops, and other meetings in various parts of the world; undertaking study visits to operational programs; seeking formal project approval from university and governmental authorities; and establishing links with appropriate schools of library and information science.

Significant progress has been made in implementing these activities. In the area of staff development, the University has identified several potential teachers for the program who require additional training at the postgraduate level. IDRC is sponsoring the studies of two of these and the University is financing others through its own staff-development program. Financing for still other fellowships must be found.

IDRC and Unesco shared the expense of sending the Dean of Ibadan's Postgraduate School and the Coordinator of the ARCIS program to Caracas, Venezuela, in June 1984 as observers at a workshop on curriculum design for a Latin American regional program of postgraduate studies in information science being planned at the Universidad Simón Bolívar in Caracas. This program will be characterized by a strong management orientation and considerable emphasis on information technology with stress on Latin American content. Preproject activities for this program have been financed by UNDP, Unesco, and the British Council.

The participation of the Coordinator of the ARCIS program in several international meetings, workshops, and seminars convened by international organizations and professional associations was also financed by Unesco and IDRC. These included a workshop on Curriculum Development in a Changing World in September 1984 organized by the Education and Training Committee of the International Federation for Documentation (FID) and Unesco's international symposium on Harmonization of Education and Training Programmes in Information Science, Librarianship, and Archival Studies in October 1984.

A Curriculum Design Experts' Group Meeting, financed by IDRC, was held on the University of Ibadan campus from 26 October to 2 November 1984 (University of Ibadan, Postgraduate School 1984). Participants were an international group of specialists responsible for education and training programs and representatives of Unesco and IDRC. They were invited to

give their views on a prepared curriculum outline and to amend and complete it by providing detailed specifications for each course. They were also asked to make recommendations on administrative policies for implementing the proposed program. Although the program will be offered in the framework of the University's Postgraduate School and must be shaped in accordance with University's procedures and regulations, the participants stressed

- The importance of the program's regional character and they consequently urged that the admissions procedures be made as flexible as possible when considering applications of prospective students from other African countries;

- The importance of a continuing education program directed at filling the region's needs;

- The need to provide for the participation of countries of the region, perhaps through a committee, in a periodic review of the curriculum for the academic programs as well as in determining the nature and content of continuing education programs; and

- The importance of active collaboration between ARCIS and similar programs such as that planned for eastern and southern Africa in Addis Ababa.

The curriculum developed by the Experts' Group has received careful study to determine its relevance to African needs, in particular through the convening with financing from IDRC of an ARCIS Curriculum Assessment Conference, which took place at Ibadan in June 1985.

Preparations for the Conference had included a fact-finding tour in March by the ARCIS Coordinator to Dakar, Banjul, Freetown, Monrovia, Abidjan, Accra, and Duala. He visited the principal information systems and services of regional or national character to acquaint professional leaders and managers with the plans for ARCIS, to canvas their views on the specific needs for information science training in West African countries, and to identify individuals who could provide useful input to the Curriculum Assessment Meeting. This tour was financed by the University of Ibadan and IDRC.

Participants in the Curriculum Assessment Conference were 20 managers of information facilities and potential employers of

trainees from the future program from the countries to which it is particularly directed (Cameroon, Gambia, Ghana, Liberia, and Sierra Leone, as well as Nigeria). In addition to assessing the curriculum prepared at the ARCIS Curriculum Design Experts' Group Meeting in terms of the degree to which trainees from the program would be prepared to meet the specific information needs of these countries and, in a more general way, in terms of the curriculum's relevance for Africa, participants were asked to comment on the various recommendations made regarding the program at the Experts' Group Meeting. In addition, they recommend strategies for promoting the program in the region and for identifying future students as well as the resources still needed to implement the ARCIS objectives.

As Phase I drew to a close, attention was turned to exploring the establishment of links with several schools of information science in Europe and North America and to gathering teaching and research materials for ARCIS.

During Phase II (October 1985 - September 1986), it is expected that ARCIS will become operational. Work will be concentrated on staff appointments, building infrastructures (library, teaching materials, computer and peripherals, etc.), organizing seminars and workshops, undertaking research and consultancies, submitting higher-degree programs to university bodies for approval, and establishing an academic board for ARCIS.

Tasks for Phase III (October 1986 - September 1990) will include appointing additional staff, developing infrastructures further, organizing further seminars and workshops, consolidating and expanding research activities, undertaking further consultancies, and introducing higher-degree programs. An international consultative committee on ARCIS will also be instituted.

University of Addis Ababa

Representatives of Unesco and IDRC met with officials of Addis Ababa University in January 1984. A task force had been set up under the chairmanship of the Dean of Graduate Studies with representatives from the University units responsible for engineering, librarianship, and mathematics as well as the University's Computer Centre, the University Library, and the External Relations Office.

It was decided that, during 1984, work should be concentrated on what were considered the preproject activities of greatest priority -- organizing study tours for members of the Task Force, planning fellowships to prepare the permanent core staff required for the program, and working on the conception of the project.

IDRC financed a tour during 1984 for the Project Director, the Dean of Graduate Studies, and the Director of the Computer Centre to Caracas, Venezuela, for conversations about the planned Latin American regional program of postgraduate studies in information science; to the School of Information and Computer Science at the Georgia Institute of Technology, Atlanta, GA, USA; to the College of Library and Information Services, University of Maryland, College Park, MD, USA; to the School of Information Studies, Drexel University, Philadelphia, PA, USA; to the School of Information Studies, Syracuse University, Syracuse, NY, USA; and to the School of Library and Information Science, University of Western Ontario, London, Ontario, Canada. The tour was intended to acquaint members of the Task Force with the main aspects of the functioning of those institutions and to identify the issues and problems that the University of Addis Ababa might have to face in establishing its own information science program. The questions raised in each institution covered a wide array of topics, including the following:

- Types and levels of programs offered and curriculum content as well as entry requirements;
- Facilities of all kinds required for conducting the programs;
- Academic regulations and procedures; and
- Organizational structure and administrative matters.

At the end of the tour, IDRC arranged for the Program Director also to attend the FID congress and precongress workshop on curriculum development in The Hague, and Unesco made possible his visit to several French institutions in the information field and his participation in its symposium on harmonization of education and training programs.

Subsequently, early in 1985, Unesco financed a study tour for representatives of the University's departments of Mathematics and Engineering, as well as one for the Program

Director to British institutions and to a regional postgraduate program in information science that has been successfully offered for some years at the Institute of Library Science, University of the Philippines, Dilliman, Philippines. The members of the group studied various aspects of the establishment and operation of postgraduate programs in information science from both the administrative and academic points of view. The itinerary for the British visits, organized for Unesco by the British Council, included the School of Library, Archive and Information Studies, University College, London; the Department of Information Science, City University, London; the British Council, London; the Library Association, London; the College of Librarianship, Wales, Aberystwyth; the Department of Librarianship, University of Strathclyde, Glasgow; the Department of Information Studies, Leeds Polytechnic; the Department of Information Studies, University of Sheffield; and the Department of Library and Information Studies, Loughborough University of Technology.

The University was able to identify four candidates for fellowships who, at the conclusion of their studies, will teach courses in the areas of information technology, information management, information repackaging, and quantitative methods. Financing for three of these fellowships at the PhD level has been provided by IDRC. Unesco is financing studies at the Master's degree level for the fourth. In due course, a core faculty of six to eight members will be required.

To help the Task Force design the program, Unesco and IDRC furnished the available documentation that touched on training needs in eastern and southern African countries. The efforts of the University to identify the information needs of these countries was reinforced with IDRC assistance by a fact-finding mission undertaken during 1985 by members of the Task Force. This mission visited information systems and services and other institutions of the region. The principal purpose was to establish direct contact with future employers of trainees from the program and to ensure the full relevance of the curriculum being designed for the program.

The participation by the Program Director and other members of the Task Force in related seminars and meetings that take place in the region or overseas may also be financed by Unesco and IDRC.

The University hopes that the program can be launched during the academic year 1986-87.

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APPENDIX 1: INDIVIDUALS WITH WHOM DISCUSSIONS WERE HELD

Accra, Ghana: 31 January - 2 February

University of Ghana

- Mr J.M. Akita, Acting Head, Department of Library and Archival Studies
- Dr Paul Ansa, Head, School of Journalism and Communication
- Professor K.E. Senanu, Pro-Vice-Chancellor

Lagos, Nigeria: 2-5 and 11 February

University of Lagos

- Dr O. Abass, Acting Head, Department of Computer Sciences (Chairman)
- Mrs Adeogun, Information Unit, Vice-Chancellor's Office
- Professor A.O. Adesola, Vice-Chancellor
- Dr E.O. Akinluyi, Director of Planning, Vice-Chancellor's Office
- Mrs O.A. Odeyemi, Planning Unit, Vice-Chancellor's Office
- Dr Frank Ugboajah, Acting Head, Department of Mass Communication

Other organizations

- Mr Simeon B. Aje, Director, National Library of Nigeria
- Mr A. Calloway, Acting Unesco Representative
- Mrs B.A. Mowoe, Secretary General, Nigerian National Commission for Unesco
- Mr A. Bola Olaniyan, Director, National Planning, Federal Ministry of Education

Ibadan, Nigeria: 5-9 February

University of Ibadan

- Professor A. Banjo, Deputy Vice-Chancellor
- Professor B.L. Fetuga, Dean, Postgraduate Studies

Professor F.B.A. Giwa, Director, Computing Centre
Professor M.O. Kayode, Director, CEREMAC [Planning Unit of the University]
Mrs T.O. Odeinde, University Librarian
Professor S.O. Olayide, Vice-Chancellor and Chairman
Professor A.O. Phillips, Chairman, Committee of Deans

International Institute of Tropical Agriculture
Mr D. Fox, Computer Consultant
Dr S. Lawani, Librarian
Dr Shebesi, Deputy Director

Ile-Ife, Nigeria: 9-10 February

University of Ife
Professor W. Abimbola, Vice-Chancellor
Professor A. Adenuga, Deputy Vice-Chancellor
Dr G.A. Balogunu, Director, Computer Centre
Professor S.G. Jaijesimi, Head, Department of Computer Sciences
Mrs O. Ojo-Ade, Acting University Librarian
Professor S.A. Sanni, Chairman, Committee of Deans

Addis Ababa, Ethiopia: 12-16 February

University of Addis Ababa
Mr Getachew Birru, University of Librarian
Dr Duri Mohammed, President
Dr Asmelash Sayene, Vice-President for Business and Development
Dr Shibru Tedla, Dean, School of Graduate Studies
Dr Aregay Waketola, Research and Publications Officer
Mrs Almaz Zewde, External Relations Officer

International Livestock Centre for Africa
Dr Peter Brumby, Director
Mr M. Hailu, Documentalist

Economic Commission for Africa
Mr Manirakiza
Mr K.T. Maruba, PADIS

Other organizations
Mr Awad Idris, Unesco Representative
Mr W. Agnes, Canadian Ambassador to Ethiopia

Nairobi, Kenya: 16-19 February

University of Nairobi
Professor J.M. Mungai, Vice-Chancellor
Mr John Ndegwa, University Librarian

Other organizations
Mr Bruce Scott, Regional Director, IDRC

Lusaka, Zambia: 19-23 February

University of Zambia
Mr D.O. Bampoe, Acting Chief Librarian
Dr P.M. Haamnjompa, Dean, Faculty of Education
Professor J.M. Kelly, Deputy Vice-Chancellor
Dr M. Lisinba, Department of Literature and Languages
Dr Maurice C. Lundu, Librarian, Ndola Campus
Dr J.M. Mwanga, Vice-Chancellor
Dr V.G. Nyirenda, University Secretary

Lusaka Campus, University of Zambia
Professor W.B. Banage, Department of Biology and Natural Sciences
Mr I.W. Chikalanga, Department of Education
Mr A.M. Kaniki, Department of Library Studies
Mr E.D.T Kularatne, Department of Library Studies
Dr E.M. Lungu, Department of Mathematics
Mr A.W.C. Msika, University Library
Mr J.G. Mvonga, Computer Centre
Dr H. Mwachalimba, University Library
Mr M. Mwiya, Department of Library Studies
Mr H.C. Parameswar, School of Engineering
Mr. Z.M.K. Phiri, University Library
Miss R.K. Shakakata, University Library
Mr Derek T. Simons, University Library
Mrs C.C. Zulu, University Library

Other organizations
Assistant Secretary for International Cooperation, Ministry of Higher Education (deputizing for the Permanent Secretary)
Mr J.C. Samuelson, British Council
Mr M.J. Mwali, Assistant Director General, National Commission for Development Planning
Mr N. Walubita, Zambia Library Service

Harare, Zimbabwe: 23-26 February

University of Zimbabwe
Professor W.J. Kamba, Vice-Chancellor
Mr S.M. Made, University Librarian
Mr Odysseus T. Mupawenda, University Library

Ministry of Education and Culture
Mr John Mapondera, Acting Chief, Information
Mrs Jane Smith

National Archives of Zimbabwe
Miss Pamela Francis
Mrs Angeline Kamba, Director

Other organizations
Mrs Theresa Harvey, British Council
Mr Bradshaw L.B. Mushonga, Government Library Service
Mr Keith A. Youds, Belvedere Teachers' College

APPENDIX 2: ACRONYMS AND INITIALISMS

ACU	Association of Commonwealth Universities, London, U.K.
ARCIS	African Regional Centre for Information Science, Ibadan, Nigeria
ECA	Economic Commission for Africa, Addis Ababa, Ethiopia
FID	International Federation for Documentation, The Hague, The Netl. rlands
Habitat	United Nations Centre for Human Settlements, Nairobi, Kenya
ICIPE	International Centre of Insect Physiology and Ecology, Nairobi, Kenya
IDRC	International Development Research Centre, Ottawa, Canada
IITA	International Institute of Tropical Agriculture, Ibadan, Nigeria
ILCA	International Livestock Centre for Africa, Addis Ababa, Ethiopia
OAU	Organization of African Unity, Addis Ababa, Ethiopia
PADIS	Pan-African Documentation Information System, Addis Ababa, Ethiopia
PGI	General Information Programme of Unesco
RIPS	Regional Institute for Population Studies, Legon, Accra, Ghana

SADCC	Southern African Development Coordination Committee
SADIS	South African Development Information System, Harare, Zimbabwe
SDI	Selective dissemination of information
UNCSTD	United Nations Conference on Science and Technology for Development, New York, NY, USA
UNDP	United Nations Development Programme, New York, NY, USA
UNEP	United Nations Environment Programme, Nairobi, Kenya
Unesco	United Nations Educational, Scientific and Cultural Organization, Paris, France
UNISIST	World Information System for Science and Technology, Paris, France